

In the Claims

The following is a listing of all the claims in the application:

1. (previously presented) A shielding system for a physical vapor deposition chamber, the chamber having a pedestal movable between a lowered loading and unloading position and a raised deposition processing position and surrounded by chamber interior lower, side and upper walls, the chamber further including a sputter target above the pedestal, the shielding system comprising:

a pedestal shield removably attachable to the pedestal and movable therewith between the lowered and raised positions, all portions of the pedestal shield residing below a top surface plane of the pedestal and having an outwardly and downwardly extending portion surrounding and extending from the pedestal toward the chamber lower walls and an outwardly and upwardly curving end extending toward the chamber side walls; and

a sidewall shield adapted to extend substantially around and within the chamber sidewalls, and downward from an upper portion thereof, the sidewall shield extending in a curved inwardly and downwardly extending pattern with a lower end thereof extending inward and disposed below a pedestal upper surface plane and adjacent the pedestal shield upper portion when the pedestal is in the raised position, the sidewall shield lower end being above the pedestal

when the pedestal is in the lowered position a distance sufficient to permit a wafer to be horizontally loaded onto the pedestal, the pedestal shield and sidewall shield cooperating, when the pedestal is in the raised position, to avoid contact with each other and prevent line-of-sight deposition transmission from the sputter target to the side and lower walls of the deposition chamber.

2-19. (cancelled)

20. (previously presented) A method of shielding a physical vapor deposition chamber, the chamber having a pedestal movable between a lowered loading and unloading position and a raised deposition processing position and surrounded by chamber interior lower, side and upper walls, the chamber further including a sputter target above the pedestal, the method comprising:

providing a shielding system having a pedestal shield removably attached to the pedestal and movable therewith between the lowered and raised positions, whereby all portions of the pedestal shield reside~~reside~~ below a top surface plane of the pedestal and ~~having~~have an outwardly and downwardly extending portion surrounding and extending from the pedestal toward the chamber lower walls and an outwardly and upwardly curving end extending toward the chamber side walls, and a sidewall shield extending substantially around and

within the chamber sidewalls, and downward from an upper portion thereof, the sidewall shield extending in a curved inwardly and downwardly extending pattern with a lower end thereof extending inward;

moving the pedestal to the lowered position in the chamber such that the sidewall shield lower end is above the pedestal a distance sufficient to permit ~~the~~a wafer to be horizontally loaded onto the pedestal;

while in the lowered position, loading the wafer onto the pedestal without interference from the pedestal shield; and

moving the pedestal to the raised position whereby the sidewall shield lower end is disposed below a pedestal upper surface plane and adjacent the pedestal shield upper portion, the pedestal shield and sidewall shield avoiding contact with each other and cooperating to prevent line-of-sight or gas-scattered transmission of deposition from the sputter target to the side and lower walls of the deposition chamber.

21. (previously presented) The shielding system of claim 1 further including the pedestal having a pedestal isolator ring whereby the pedestal shield is removably attachable to the pedestal isolator ring of the pedestal.

22. (previously presented) The shielding system of claim 21 wherein the pedestal shield is removably resting on the pedestal isolator ring of the pedestal.

23. (previously presented) The shielding system of claim 21 wherein the pedestal shield is removably secured to the pedestal isolator ring of the pedestal.

24. (previously presented) The shielding system of claim 23 wherein the pedestal shield is secured to the pedestal isolator ring using a mechanical connection.

25. (previously presented) The method of claim 20 further including removably attaching the pedestal shield to a pedestal isolator ring of the pedestal.

26. (previously presented) The method of claim 25 wherein the pedestal shield is removably resting on the pedestal isolator ring of the pedestal.

27. (previously presented) The method of claim 25 wherein the pedestal shield is removably secured to the pedestal isolator ring of the pedestal.

28. (previously presented) The method of claim 27 wherein the pedestal shield is secured to the pedestal isolator ring using a mechanical connection.

29. (new) A shielding system for a physical vapor deposition chamber, the chamber having a pedestal movable between a lowered loading and unloading position and a raised deposition processing position and surrounded by chamber

interior lower, side and upper walls, the chamber further including a sputter target above the pedestal, the shielding system comprising:

- a pedestal shield removably attached to the pedestal and movable therewith between lowered and raised positions, whereby the entire pedestal shield resides below a top plane surface of the pedestal and has an outwardly extending portion surrounding and extending from the pedestal toward the chamber lower walls; and
- a sidewall shield adapted to extend substantially around and within the chamber sidewalls, and downward from an upper portion thereof, the sidewall shield extending in an inwardly and downwardly extending pattern with a lower end thereof extending inward and adjacent the pedestal shield upper portion when the pedestal is in the raised position, and when the pedestal is in the lowered position the sidewall shield lower end residing above a gate opening and above the pedestal a distance sufficient to permit a wafer to be horizontally loaded from the gate opening onto the pedestal, whereby both the positioning of the sidewall shield and the entire pedestal shield residing below the top plane surface of the pedestal prevents interference with the loading and unloading of the wafer into and out of the chamber.

30. (new) The shielding system of claim 29 further including, when the pedestal is in the raised position, the pedestal shield and sidewall shield cooperate to avoid contact with each other and prevent line-of-sight deposition transmission from the sputter target to the side and lower walls of the deposition chamber.

31. (new) The shielding system of claim 30 further including the pedestal shield having an outwardly and downwardly extending portion surrounding and extending from the pedestal toward the chamber lower walls.

32. (new) The shielding system of claim 31 further including the pedestal shield having an outwardly and upwardly curving end extending toward the chamber side walls.

33. (new) The shielding system of claim 29 wherein the lower end of the sidewall shield extends inward and disposed below a pedestal upper surface plane and adjacent the pedestal shield upper portion when the pedestal is in the raised position

34. (new) The shielding system of claim 29 further including the pedestal having a pedestal isolator ring whereby the pedestal shield is removably attached to the pedestal isolator ring of the pedestal.

35. (new) The shielding system of claim 34 wherein the pedestal shield is removably resting on the pedestal isolator ring of the pedestal.

36. (new) The shielding system of claim 34 wherein the pedestal shield is removably secured to the pedestal isolator ring of the pedestal.

37. (new) A method of shielding a physical vapor deposition chamber, the chamber having a pedestal movable between a lowered loading and unloading position and a raised deposition processing position and surrounded by chamber interior lower, side and upper walls, the chamber further including a sputter target above the pedestal, the method comprising:

providing a shielding system having a pedestal shield removably attached to the pedestal and movable therewith between the lowered and raised positions, the entire pedestal shield residing below a top plane surface of the pedestal and having an outwardly extending portion surrounding and extending from the pedestal toward the chamber lower walls, and a sidewall shield extending substantially around and within the chamber sidewalls, and downward from an upper portion thereof, the sidewall shield extending in an inwardly and downwardly extending pattern;

moving the pedestal to the lowered position in the chamber such that the sidewall shield lower end is above the pedestal a distance sufficient to permit a wafer to be horizontally loaded onto the pedestal; while in the lowered position, loading the wafer onto the pedestal without interference from the pedestal shield as a result of the entire pedestal shield residing below the top plane surface of the pedestal; and moving the pedestal to the raised position whereby the sidewall shield lower end is disposed below a pedestal upper surface plane and adjacent the pedestal shield upper portion, the pedestal shield and sidewall shield avoiding contact with each other and cooperating to prevent line-of-sight or gas-scattered transmission of deposition from the sputter target to the side and lower walls of the deposition chamber.